SAMBUR, G. N.

Soil amelioration planning in the irrigation territories of southern Ukraine. G. N. Sambur. *Pochvovedenie* 1954, No. 4, 31–36.—S. discusses the soils of different regions with respect to their properties to become salinized when irrigation waters are to be applied. The analyses offered consist of the ratio of adsorbed Ca, Mg, and Na, org. matter, and water-sol. salts: CO_3^{--}, HCO_3^-, Cl^-, SO_4^{--}, Ca, Mg, and Na. These analyses cover the southern chernozem, chestnut brown, transition types of these soils, cultivated, fallow, soil, and soils in different stages of the salinization process.

J. S. Joffe

Sambur, G N.

Improvement of the solonetz soils of the dry steppe of the USSR. A
G. N. Sambur (*Zemledelie*, 1954, No. 6, 50—56).—Deep ploughing G
(65 cm.) with mechanical disruption of illuvial horizons increased yields, particularly on columnar and deep columnar solonetz, and raised the moisture content of lower layers of soil. Application of gypsum at ploughing time was effective on crust solonetz soils; on deep-columnar types gypsum was effective only in the year of its application. SOILS & FERT. (A. G. P.).

SAMBUR, G.N.

Work of the Kiev Branch of the All-Union Society of Soil Scientists.
Pochvovedenie no.12:96-97 D '58. (MIRA 12:1)
(Ukraine--Soil research)

SAMBUR, G.N.; KOVALENKO, I.I.

Improved and efficient utilization of saline lowland soils in southern Polesye and the northern forest-steppe of the Ukraine. Pochvovedenie no.12:36-44 D '59.
(MIRA 13:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.
(Ukraine--Alkali lands)

LOZENKO, V.T.; SAMBUR, G.N., kand.sel'skokhoz.nauk

Role of soil investigations in raising the standards of agriculture on the Lenin Collective Farm. Zemledelie 8 no.7:26-34 Jl '60.
(MIRA 13:9)

1. Predsedatel' kolkhoza imeni Lenina (for Lozenko). 2. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.
(Borodyanka District--Agriculture)

SAMBUR, G. N.

"Melioration Of Alkali Soils In Ukrainian SSR",

report submitted for the 7th Congress of International Society of Soil Science Madison, Wisconsin, 15-23 Aug 60.

SAMBUR, Grigoriy Nikitovich [Sambur, H.M.]; SKRIPNIK, P.S. [Skrypnyk, P.S.], red.; KALASHNIKOVA, O.G.[Kalashnykova, O.H.], tekhn. red.

[Improvement and use of Solonets soils] Polipshennia ta vykorystannia solontsevykh hruntiv. Kyiv, Derzhsil'hopvydav URSR, 1962. 51 p. (MIRA 15:7)
(Ukraine--Solonetz soils)

SAMBUR, G.N.; Prinimali uchastiye: KATERINICH, T.D.; YUNIK, S.M.

Mobility of exchangeable sodium and recommeneded norms for the use of gypsum in the improvement of Solonetz soils. Pochvovedenie no.11:35-46 N '63. (MIRA 16:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.

YUKHIMCHUK, F.P.[IUkhymchuk,F.P.], otv. red.; VISHINSKIY, O.M. [Vyshyns'kyi, O.M.], red.; GOLOMBA, R.A.[Holomba, R.A.] red.; DMITRENKO, P.O.[Dmytrenko, P.O.], doktor sel'khoz. nauk, red.; IL'YASHENKO, M.G.[Illiashenko, M.H.], red.; KOLOBOV, O.M., red.; KUKSIN, M.V., red.; LAZURSKIY, O.V. [Lazurs'kyi, O.V.], kand. sel'khoz. nauk, red.; POPOV, F.A., red.; SAMBUR, G.M.[Sambur, H.M.], red.; SAMTSEVICH, S.A.[Samtsevych, S.A.], red.; FEDOROVA, N.A.,kand.sel'khoz. nauk. red.; YASHOVSKIY, I.V.[IAshovs'kyi, I.V.], red.

[Nutrition and fertilizers of farm crops] Zhyvlennia ta udobrennia sil's'kohospodars'kykh kul'tur. Kiev, Urozhai, 1964. 137 p. (MIRA 17:10)

1. Ukrains'kyy naukovo-doslidnyy instytut zemlerobstva.

LYASHENKO, V.I.; LITOVCHENKO, V.G. [Lytovchenko, V.H.]; SAMBUR, I.G. [Sambur, I.H.]

Surface states of germanium. Ukr.fiz.zhur. 4 no.4:465-471 Jl-Ag '59. (MIRA 13:4)

1. Institut fiziki AN USSR, kafedra poluprovodnikov Kiyevskogo gosudarstvennogo universiteta.
(Germanium)

L 29971-66 EWT(m)/T DJ/WE
ACC NR: AP6006500 (A) SOURCE CODE: UR/0152/65/000/009/0081/0082

AUTHOR: Sambur, Kh. O.

ORG: Azerbaydzhan Institute of Petroleum and Chemistry im. M. Azizbekov (Azerbaydzhanskiy institut nefti i khimii)

TITLE: Carbon forming propensity of a blend of DL diesel fuel and light gas oil, obtained by catalytic cracking of crude, and type of wear of a high-speed D-6 diesel operating on these fuel blends

SOURCE: IVUZ. Neft' i gaz, no. 9, 1965, 81-82

TOPIC TAGS: fuel deposit formation, fuel mixing, diesel fuel, petroleum fuel, diesel engine, internal combustion engine, engine cylinder, combustion deposit

ABSTRACT: The combustion parameters of a D-6 diesel engine operating on DL regular diesel fuel and light gas oil blends and on DL regular diesel fuel, and the carbon forming propensity of the fuel blends at $\theta = 30^{\circ}$ angle of advance of feed in the cylinder and of the DL regular diesel fuel at $\theta = 27^{\circ}$ were investigated. The experimental results show that 1) only the combustion parameters of a DL + 30% light gas oil blend approximately corresponds to the combustion parameters of regular DL fuel at $\theta = 27^{\circ}$ and consequently is recommended as the optimal blend for practical

Card 1/2 UDC: 665.546.4:662.613.001.5

L 29971-66

ACC NR: AP6006500

purposes, 2) an addition of 20-30% light gas oil to regular DL fuel affects the carbon forming propensity of the blend but little and its application cannot diminish the motor capacity, 3) an addition of light gas oil to regular DL in excess of 20-30% sharply increases the carbon forming propensity of the blend, 4) during 14 hrs of engine operation the rate of engine wear gradually increases and afterwards becomes constant changing almost in proportion to the time of engine operation, and 5) the increase in iron content per time unit of engine operation on DL + 30% light gas oil is 5% higher than for DL regular diesel fuel as a result of the larger angle of advance of feed, but this higher increase in iron content cannot appreciably affect the motor capacity. Orig. art. has: 1 formula and 2 figures.

SUB CODE: 21/ SUBM DATE: 28Jun65

Card 2/2

S/0196/64/000/002/B002/B002

ACCESSION NR: AR4027712

SOURCE: RZh. Elektrotekhnika i energetika, Abs. 2B5

AUTHOR: Naumov, A.L.; Sambur, N.I.

TITLE: Analytical formula for hysteresis loops of ferromagnetic materials

CITED SOURCE: Vistny*k Ky*yivs'k. un-tu, 1962, no.5, Ser. matem. ta mekhan., vy*p. 2, 12-16

TOPIC TAGS: ferromagnetic material, hysteresis loop, hysteresis loop formula, ferromagnetic material hysteresis loop

TRANSLATION: A method is offered for plotting the hysteresis loop and magnetization curve by using this type of approximation $B=\mu H-\beta H^3\pm c(H_m\pm H)$. Three parameters characterizing the material and its magnetization intensity are necessary for the plotting. These parameters are taken from experiments. The investigation results are given in the form of graphs. From the summary.

Date ACQ: 24Mar64 SUB CODE: EM ENCL: 00

Card 1/1

SAMBURENKO, I.Z.

Study of the radioactivity of inland waters. Trudy GGI no.115:144-158 '64. (MIRA 18:9)

SAMBURENKO, I. Z.

USSR/Geography - Hydroelectric Plant Jan/Feb 53

"Change in the Salt Regime of the Dnepr-Bug Estuary in Connection With the Intake of Water by the Kakhovsk Hydroelectric Plant"

"Iz V-S Geograf Obshch" Vol 85, No 1, pp 121-123

Report presented by I.Z. Samburenko, Cand Technical Sciences, 24 Oct 1952 at a joint meeting of the Committee for Promoting the Transformation of Nature and the Commission of Water Resources of the All-Union Geographical Society. States that decrease of the run off of the Dnepr by water intake will change appreciably the salinity of water in the Dnepr-Bug estuary.

246T77

FIRISYUK, V. R.[Fyrysiuk, V. R.]; SAMBURG, Ya.L.

Conveyor line for the processing of waterfowl in poultry plants. Khar. prom. no.1:6-15 Ja-Mr '63. (MIRA 16:4)

1. Gosudarstvennyy komitet Soveta Ministrov UkrSSR po koordinatsii nauchno-issledovatel'skikh rabot (for Firisyuk).
2. Poltavskiy mashinostroitel'nyy zavod myasnogo oborudovaniya (for Samburg).

(Poultry plants—Equipment and supplies)
(Assembly-line methods)

LUKS, Yu.A.; SAMBURGSKAYA, A.N.; ARKHANGEL'SKAYA, M.S.

Fruits of Chaenomeles Maulei as a new source of pectin substances.
Trudy Bot. inst. Ser. 6 no.8:177-183 '62. (MIRA 15:7)
(Quince)
(Plant introduction)
(Pectin)

SAMBUROV, V.A.; FEDOROV, N.I.

Multiple lens and mirror repeators of patterns. Tekst. prom. 16 no.8:38-43 Ag '56. (MLRA 9:10)

(Textile printing)

SAMBUROV, V. I.

ORLOVSKIY, N.I.; SAMBUROV, V.I.

In the All-Union Institute of Sugar Beets. Agrobiologiia no.6:151-152 N-D '56. (MIRA 10:1)

(Sugar beets)

BUZANOV, I.F.; SAMBUROV, V.I.; YEMETS, G.M.; ORLOVSKIY, N.I.; NEGOVSKIY, N.A.; FEDOROV, A.I.; GREKOV, M.A.; KURBATOV, S.T.; MEL'NICHUK, A.N.; TONKAL', Ye.A.; GORNAYA, V.Ya.; ROZHDESTVENSKIY, I.G.; SIDOROV, A.A.; KUDARENKO, F.F.; BROVKINA, Ye.A.; GELLER, I.A.; DOBROTVORTSEVA, A.V.; VARSHAVSKIY, B.Ya.; KUTSURUBA, N.V.; KUZ'MICH, S.I.; PRESNYAKOV, P.V.; USHAKOV, A.F.; SHEVCHENKO, V.N.; KHUCHUA, K.N.; PETRUKHA, Ye.I.; POZHAR, Z.A.; SHAPOVALOV, P.T.; AREF'YEV, T.I.; GRIGOR'YEVA, A.I., red.; BALLOD, A.I., tekhn. red.

[Sugar beets] Sakharnaia svekla. Moskva, Sel'khozizdat, 1963. 487 p. (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy svekly. 2. Nauchnyye sotrudniki Vsesoyuznogo nauchno-issledovatel'skogo instituta sakharnoy svekly (for all except Grigor'yeva, Ballod).
(Sugar beets)

ZUBCHANINOV, V.V.; ASTROV, O.V.; VOLKOVA, O.D.; KURENKOV, Yu.V.; SAMBUROVA, I.V.; SAFRONOVA, L.I.; SYROVEGINA, G.G.; RADUSHINSKIY, L.A., kand. tekhn.nauk, retsenzent; TILLES, S.A., kand. tekhn. nauk, red.; PETUKHOVA, G.N., red. izd-va; DEMKINA, N.F., tekhn. red.

[Economic efficiency of the automation of production processes in the textile industry] Ekonomicheskaia effektivnost' avtomatizatsii proizvodstvennykh protsessov tekstil'noi promyshlennosti. [By] Zubchaninov, V.V., i dr. Moskva, Mashgiz, 1962. 198 p. (MIRA 15:11)
(Textile industry--Costs) (Automation)

SAMBURSKAYA, L.I.; PROMYSLOV, M.Sh.

Incorporation of C^{14}-l-glycine into the nucleic acids of the brain and brain tumors in mice. Vop. med. khim. 10 no.1:73-76 Ja-F '64. (MIRA 17:12)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni institut neyrokhirurgii imeni akademika N.N. Burdenko AMN SSSR, Moskva.

SAIBURSKIY, S.S., insh.

Experience of a woodpulp plant. Bum. prom. 33 no.2:18-19 F '58.
(MIRA 11:3)

1. Nachal'nik drevesnomassnogo zavoda Tallinskogo tsellyulozno-bumazhnogo kombinata.
(Woodpulp industry--Equipment and supplies)
(Automatic control)

SAMBUYEVA, A.S.; SVERCHINSKAYA, S.A.; SHIPITSYN, S.A.

Determination of zinc in soils by the spectral method. Zhur. anal. khim. 20 no.7:889-891 '65. (MIRA 18:9)

1. Zhdanov Irkutsk State University.

SAMBUYEVA, A.S.; SHIPITSYN, S.A.

Fluorination reactions used for the increase of spectral analysis sensitivity. Zav. lab. 31 no.9:1087-1089 '65. (MIRA 18:10)

1. Irkutskiy gosudarstvennyy universitet imeni Zhdanova.

S/139/62/000/003/011/021
E039/E420

AUTHOR: Sambuyeva, A.S.

TITLE: Determination of the concentration of copper in the NaCl-Cu phosphors by a spectral analysis method

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, no.3, 1962, 79-81

TEXT: Natural rock salt is used and activation carried out at temperatures of 640, 670, 700, 720, 740 and 770°C by the method developed and described in 1934 and 1936 by S.A.Artsybyshev, Professor I.A.Parfianov and Docent S.A.Shipitsyn. Copper is introduced in the form of chloride and standard samples made up containing 1.00, 0.33, 0.10, 0.037, 0.014 and 0.0073% Cu. For analysis samples are introduced into a spark discharge between carbon electrodes and spectrographs obtained. Tin lines are used as a standard of comparison. The relation between the temperature of activation and concentration of copper is determined; at 640°C the concentration is about 0.12% and at 770°C about 0.2%. The value for the activation energy of Cu in rock salt is estimated at 0.63 ev. The experimentally

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determined values of concentration at different activation temperatures are compared with calculated values, reasonable agreement being obtained. The relation is exponential over the range investigated. There are 4 figures and 1 table.

ASSOCIATION: Irkutskiy gosuniversitet imeni A.A.Zhdanova
(Irkutsk State University imeni A.A.Zhdanov)

SUBMITTED: February 16, 1961

ZELENOV, Anatoliy Borisovich; KAROCHKIN, Aleksandr Vasil'yevich; SAMCHELEYEV, Yuriy Pavlovich; SHKOL'NIKOV, Viktor Ivanovich; DOLBNYA, V.T., kand.tekhn.nauk dots., otv.red. ALYAB'YEV, N.Z., red.

[Automated electric drive and servo systems] Avtomatizirovannyi elektroprivod i sledíashchie sistemy. Khar'kov, Izd-vo Khar'kovskogo univ., 1965. 362 p. (MIRA 18:12)

KAROCHKIN, Aleksandr Vasil'yevich, kand.tekhn.nauk, dotsent; ZELENOV, Anatoliy Borisovich, kand.tekhn.nauk, dotsent; SAMCHELEYEV, Yuriy Pavlovich, inzh.

Universal device for processing the oscillograms of reversing rolling mills. Izv. vys. ucheb. zav.; elektromekh. 6 no.5: 611-618 '63. (MIRA 16:9)

1. Kafedra elektrifikatsii i avtomatizatsii promyshlennykh predpriyatiy i ustanovok Kommunarskogo gornometallurgicheskogo instituta (for Karochkin, Samcheleyev). 2. Zaveduyushchiy kafedroy elektrifikatsii i avtomatizatsii promyshlennykh predpriyatiy i ustanovok Kommunarskogo gornometallurgicheskogo instituta (for Zelenov).
(Rolling mills--Electric driving) (Electric measurements)

SMIRNOV, V.A.; DEMCHUK, L.A.; SAMCHENKO, D.P.; ANTROPOV, L.I.

Determination of the zero points of diluted sodium amalgams by the method of "zero solution." Report No.2. Trudy NPI 134:65-74 '62.
(MIRA 17:2)

SAICHENKO, F.

Loose housing of cattle is considerably reducing the over-all expenditures. Sil'.bud. 10 no.2:7-8 F '60.
(MIRA 13:5)

1. Predsedatel' kolkhoza "Zori Kremlia" Bashtanskogo rayona, Nikolayevskoy oblasti.
(Bashtanka District--Farm buildings)

RODYGINA, A.M. [Rodyhina, A.M.] prof.; MAKUKHINA, A.I., ordinator; SAMCHENKO, I.M., vrach

Etiology of blindness in childhood. Ped., akush. i gin. 23 no.1: 20-23 '61. (MIRA 14:6)

1. Kafedra oftal'mologii (zaveduyushchiy - prof. A.M.Rodygina [Rodyhina, A.M.]) L'vovskogo meditsinskogo instituta (direktor - prof. L.N.Kuzmenko).
(CHILDREN, BLIND)

S/020/60/133/006/028/031XX
B016/B054

AUTHORS: Rekasheva, A. F. and Samchenko, I. P.

TITLE: Investigation With the Aid of Deuterium of the Mechanism of Hydration on the Basis of Kucherov's Reaction

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 6, pp. 1340-1343

TEXT: The authors report on the clarification of hitherto disputed details of the mechanism of Kucherov's reaction [ABSTRACTER'S NOTE: This reaction is not described in the text] by their experiments. The unclear details concern the following problems: 1) Which step of the reaction is decisive for the hydration rate of acetylene? 2) Do the water- or acid molecules participate in the transition complex of the slow step of the reaction (Refs. 2,3)? 3) Of what composition and structure are the mercury intermediate compounds of acetylene which give acetaldehyde by hydrolysis (Ref. 1)? In their experiments, the authors hydrated a) ordinary acetylene with D_2O, and, on the other hand, b) deutero-acetylene with ordinary water. The resulting acetaldehyde was oxidized with potassium permanganate

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in H_2SO_4 solution, to give potassium acetate. Table 1 shows the results of test series a, namely the deuterium content in the hydrating solution before and after the experiment, in CH_3CHO, and in CH_3COOK. From a comparison of these data, the authors conclude that the entire deuterium of acetaldehyde is concentrated in its methyl group. This proves that the deuterium content in the acetate, as compared with that in the aldehyde used, is increased by the elimination of hydrogen from the carbonyl group (by oxidation) at the ratio 4 : 3. Further, Table 1 shows that the deuterium content in acetaldehyde is not reduced to one-half, but to about one-third. This speaks in favor of a strong isotopic effect. For comparison, the authors hydrated deuterium-marked acetylene by ordinary water (test series b, Table 2). They found that here the isotopic effect was eliminated, since during hydration the acetylene molecules only add ordinary hydrogen. From Table 2, the authors conclude that the aldehyde group of the resulting acetaldehyde contains the same amount of deuterium as was present in the acetylene used (according to data in Table 1). Further, the authors conclude from Table 2 that here hydration is

accompanied by a considerable exchange. Hence, it appears that the hydrogen of acetylene which was absorbed by the methyl group of the aldehyde was half substituted by the hydrogen of the medium during hydration. From the degree of exchange (Table 1) during hydration, the authors try to estimate the extent of the kinetic isotope exchange on the passage of hydrogen (from water or acid) to the acetylene molecules. According to current conceptions, two hydrogen atoms are added to acetylene in the formation of acetaldehyde. This is supposed to occur in two steps, one of which may be decisive for the rate of the process. In other words, only the passage of one hydrogen atom can be accompanied by an isotopic effect. The authors calculate the isotopic effect to be about 7.6. The existence of this effect proves clearly that the hydration rate is determined by the step of the passage of one of the hydrogen atoms from the water- (or acid-) molecules. Consequently, the latter molecules constitute part of the transition complex of the slow step. This conclusion contradicts conclusions drawn by R. M. Flid, I. I. Moiseyev, and Ye. M. Kalmykova (Ref.2), who maintained that the activation of acetylene constitutes the slow step of the process, which is not connected with a proton addition. The

Investigation With the Aid of Deuterium of the Mechanism of Hydration on the Basis of Kucherov's Reaction

S/020/60/133/006/028/031XX
B016/B054

authors try to establish an agreement between the said contradiction and their own results with the aid of a scheme:

$$CH \equiv CH + HgX_2 \text{ rapid} \rightarrow CH \equiv CH \cdot HgX_2$$
$$CH \equiv CH \cdot HgX_2 + HOH \text{ slow} \rightarrow CH_2 = CHOH \cdot HgX_2$$
$$CH_2 = CHOH \cdot HgX_2 + H_3O^+ \text{ rapid} \rightarrow CH_2 = CHOH \cdot H_3O^+ + HgX_2$$
$$CH_2 = CHOH \cdot H_3O^+ \text{ rapid} \rightleftharpoons CH_2 = CHOH_2^+ + H_2O$$
$$CH_2 = CHOH_2^+ \rightarrow CH_3CHO + H^+$$

There are 2 tables and 5 references: 4 Soviet and 1 German.

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo Akademii nauk USSR (Institute of Physical Chemistry imeni L. V. Pisarzhevskiy of the Academy of Sciences UkrSSR)

PRESENTED: February 29, 1960, by M. I. Kabachnik, Academician

SUBMITTED: February 26, 1960

Card 4/4

GRAGEROV, I.P.; REKASHEVA, A.F.; TARASENKO, A.M.; LEVIT, A.F.; SAMCHENKO, I.P.

Syntheses of certain organic compounds labeled with O^{18}.
Zhur. ob. khim. 31 no.4:1113-1119 Ap '61. (MIRA 14:4)

1. Institut fizicheskoy khimii imeni L. V. Pisarzhevskogo Akademii nauk Ukrainskoy SSR.
(Oxygen—Isotopes)

ROKA[illegible], A.F.; SAMCHENKO, I.P.

Mechanism underlying the Kucherov reaction. Part 2: Isotopic effect in the reactions of acetylene with acetic acid. Ukr.khim.zhur. 28 no.9:1054-1060 '62. (MIRA 15:12)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN UkrSSR.

(Acetylene) (Acetic acid)
(Deuterium compounds)

SAMCHENKO, I.P.; REKASHEVA, A.F.

Exchange kinetics of acetate groups between vinyl acetate and acetic acid. Zhur. fiz. khim. 39 no.4:859-864 Ap '65. (MIRA 19:1)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR.

REKASHEVA, A.F.; SAMCHENKO, I.P.

Mechanism of reductive degradation of dimethylamino derivatives of triphenylmethane. Zhur. ob. khim. 33 no.5:1523-1529 My '63. (MIRA 16:6)

1. Institut fizicheskoy khimii imeni L.V. Pisarzhevskogo AN UkrSSR.

(Triphenylmethane dyes)
(Reduction, Chemical)

DUDKO, D.A., kand.tekhn.nauk; KONASHKO, N.P., otv. za vypusk; SAMCHENKO, I.S., red.

[New possibilities for welding with a high-temperature arc, compressed by a gas stream] O novykh vozmozhnostiakh svarki vysokotemperaturnoi dugoi, szhatoi gazovym potokom. Kiev, Glavpoligrafizdat M-va kul'tury USSR, 1960. 11 p.
(MIRA 14:11)

1. Institut elektrosvarki im. Ye.O.Patona AN SSSR (for Dudko).
(Electric welding)

GARBUZ, G.A.; KONASHKO, N.P., otv. za vyp.; SAMCHENKO, I.S., red.;

[Steel production in oxygen converters] Proizvodstvo stali v kislorodnykh konverterakh; tematicheskii obzor. Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1963. 71 p. (MIRA 16:10)
(Bessemer process)
(Oxygen--Industrial applications)

SAMCHENKO, N.P.; STREL'TSOV, O.A.; RUSOV, M.T.

Effect of the conditions of reduction on the distribution of components on the surface layer of an iron catalyst for ammonia synthesis. Kin. i kat. 4 no.6:930-932 N-D '63. (MIRA 17:1)

1. Institut fizicheskoy khimii AN UkrSSR.

VLASENKO, V.M.; KUKHAR', L.A.; RUSOV, M.T.; SAMOCHENKO, N.P.

Adsorption of hydrogen and carbon monoxide on a nickel catalyst. Kin. i kat. 5 no.2:337-344 Mr-Ap '64.
(MIRA 17:8)

1. Institut fizicheskoy khimii imeni Pisarzhevskogo AN UkrSSR.

L 29380-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6019795 SOURCE CODE: UR/0286/65/000/004/0032/0032

INVENTOR: Braun, M. P.; Mirovskiy, E. I.; Sevruk, B. A.; Samchenko, V. G.; El'kina, T. P. 20 B

ORG: none

TITLE: Non-nickel structural steel / Class 18, No 168321

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 32

TOPIC TAGS: structural steel, metal property

ABSTRACT: A non-nickel structural steel with increased physical and mechanical properties is proposed which contains: 0.18-0.24% C, 0.8-1.0% Si, 0.8-1.2% Mn, 0.04% (max) P, 0.04% (max) S, 0.8-1.2% Cr, 0.04-0.06% Ti, and 0.6-0.8% W. Orig. art. has: 1 table. [JPRS]

SUB CODE: 11 / SUBM DATE: none

Card 1/1 CC UDC: 669.14.018.29

L 9632-66 EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) MJW/JD/DJ

ACC NR: AP5027707 SOURCE CODE: UR/1029/65/000/011/0024/0026

AUTHOR: Braun, M. P.; Sevruk, B. A.; Mirovskiy, E. I.; Samchenko, V. G.; El'kina, T. P.

ORG: USKhA; Khar'kov Tractor Plant (Khar'kovskiy traktornyy zavod)

TITLE: New 20KhGSVT case-hardenable steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 11, 1965, 24-26

TOPIC TAGS: case hardening, steel, transmission gear, tensile strength, carburization, tractor / 20KhGSVT steel

ABSTRACT: The article describes the newly developed 20KhGSVT case-hardenable steel (0.23% C, 1.02% Mn, 0.7% Si, 1.0% Cr, 0.9% W, 0.06% Ti) replacing the high-strength 20KhN3A and 20KhGNR chromium-nickel steels as the material of the main and side transmission gears of the T-74 tractor. 20KhGSVT steel is superior to the 20KhN3A and 20KhGNR steels in its mechanical properties (tensile strength 164 kg/mm^2 compared with 148 and 140 kg/mm^2, respectively, for the other two steels). It is more resistant to temper brittleness, owing to the presence of W and Ti. Test-rig studies of main and side transmission gears of the T-74 diesel tractor, made of 20KhGSVT steel, showed that this steel can be used to fabricate important work parts of tractors. The gears of 20KhSVT steel were case-hardened in a solid carburizer. The total time of

Card 1/2 UDC: 669.14.018.46

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ACC NR: AP5027707

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case-hardening and subsequent cooling of both gear wheels was 24 hours. Following their case-hardening the gears were oil-quenched from 860°C and tempered at 220°C. On the basis of the results of laboratory and test-rig studies, 750 T-74 tractors were experimentally equipped with side-transmission gears of 20KhGSVT steel. All these tractors have been in operation for more than two years now, without a single instance of breakdown of a tractor owing to poor performance of the side-transmission gears of 20KhGSVT steel. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Card 2/2

SAMCHENKO, V., inzh.; CHERNYSHEV, A., inzh.; NIKITIN, N.

New use for the PK-2M cutter loader. Mast. ugl. 7 no.2:13-15 F '58. (MIRA 11:3)

1. Instruktor peredovykh metodov truda normativno-issledovatel'skoy stantsii No.14 (for Nikitin).

(Coal mining machinery)

CHERNYSHEV, A.V., inzh.; SAMCHENKO, V.V., inzh.

Record speed of mining with use of cutter-loaders in the Moscow Basin. Shakht. stroi. no.8:21-23 Ag '58. (MIRA 11:9)
(Moscow Basin--Coal mines and mining) (Coal mining machinery)

CHERNYSHEV, A.V., inzh.; SAMCHENKO, V.V., inzh.

One thousand six hundred and seventy meters of drift in one month. Shakht.stroi. no.3:25-28 Mr '59. (MIRA 12:4)
(Coal mines and mining)

SOV-21-58-9-13/28

AUTHORS: Dumanskiy, A.V., Academician of the AS UkrSSR, Nekryach, Ye. F. and Samchenko, Z.A.

TITLE: Heat of Wetting and Hydration of Cations (Teploty smachivaniya i gidratatsiya kationov)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 9, pp 966 - 969 (USSR)

ABSTRACT: Different viewpoints on the effect of the nature of cations on the hydrophilic properties of clays and soils are given by Sergeyev /Ref.1/, Gapon and Zuyev /Ref.2/, Antipov-Karatayev /Ref.3/, Janert /Ref.4/, Sharov /Ref.5/ and Ovcharenko /Ref.6/. This problem was investigated by the authors by studying the heats of wetting salts of the same cations but with simpler anions. The following salts were studied: $CaCO_3$. $MgCO_3$, $BaCO_3$, $SrCO_3$, $CaSO_4$, $BaSO_4$ and $SrSO_4$. On the basis of investigating the heats of interaction with water of these bivalent salts, the cations of which are frequently contained in the composition of clay complexes, a conclusion was drawn that the hydrophilia of clays depends mainly on the magnitude of specific surface rather than on hydration of cations. Exchange cations, without directly affecting the hydrophil'a, may change the structure of the micro-

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aggregates of the particles and thereby change the magnitude of their surface. There are 2 tables and 10 references, 8 of which are Soviet, 1 German and 1 unidentified.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR (Institute of General and Inorganic Chemistry of the AS UkrSSR)

SUBMITTED: April 3, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Clays--Moisture factors 2. Soils--Moisture factors
3. Ions--Chemical effects 4. Salts--Chemical reactions
5. Salts--Thermal effects

S/069/60/022/03/05/019
B004/B007

AUTHORS: Nekryach, Ye. F., Samchenko, Z. A.

TITLE: Sorption of Water Vapor and the Wetting Heat of Some Polyamides

PERIODICAL: Kolloidnyy zhurnal, 1960, Vol. 22, No. 3, pp. 288 - 292

TEXT: It was the aim of the present paper to carry out a comparative investigation of the sorption and hydrophile properties of polycaprolactam (Capron)[1] and polyhexamethyleneadipamide (Anid).[2] In these compounds one carbamide group corresponds to the same number of methylene groups, but they differ in structure. Capron was supplied by the Kiyevskiy zavod iskusstvennogo shelka (Kiyev Rayon Factory) and Anid by the Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (All-Union Scientific Research Institute of Synthetic Fibers). First, powders of these resins were produced partly by mechanical grinding and partly by precipitation from a solution of $CaCl_2$ in methanol. The sorption isothermal lines were determined pycnometrically at 20°C

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(Ref. 6), the wetting heats at 20°C in an adiabatic calorimeter (Refs. 7-9). A table shows (for Capron) the dependence of the wetting heat on the manner of producing the powder (mechanically ground or precipitated) and on the manner of drying (in air at 110°C, in a vacuum at 60 or 100°C). Further experiments were carried out only with precipitates which had been dried in a vacuum at 60°C. The following experimental data are given: Fig. 1: Isothermal lines of the sorption of water vapor by Capron and Anid; Fig. 2: Wetting heats; Fig. 3: Differential wetting heats. Herefrom the authors draw the following conclusions: 1) At a relative moisture p/p_s of up to 0.85 hardly any difference is observed between the isothermal lines of the sorption of water vapor by Capron or Anid. 2) No difference was further observed between the wetting heats of the two substances. 3) The calculated differential wetting heats (q_{diff}) show that the curve $q_{diff} = f(x)$ has two sections with constant values, which correspond to the hydration heats of the free carbamide groups as well as to the heat liberated by other processes. The same quantity of bound water corresponds to one carbamide group of Capron or Anid, respectively. The structural difference

between the two polyamides is without influence upon their hydrophile nature. 4) Determination of the quantity x_c of bound water from the equation $x_c = q_{integr}/80$ leads to the same values, irrespective of the fact whether for q_{integr} the experimental data or the values calculated from the change in q_{diff} are put. The authors mention a paper by N. V. Mikhaylov and E. Z. Faynberg (Ref. 3), and thank A. V. Dumanskiy, Academician of the AS UkrSSR, for his advice. There are 3 figures, 1 table, and 11 references: 10 Soviet and 1 American.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, Kiyev (Institute of General and Inorganic Chemistry of the AS UkrSSR, Kiyev)

SUBMITTED: February 25, 1960

NEKRYACH, Ye.F.; SAMCHENKO, Z.A.

Sorption of water vapor and the heat of wetting of silica gels. Koll.zhur. 22 no.3:293-296 My-Je '60. (MIRA 13:7)

1. Institut obshchey i neorganicheskoy khimii AN USSR, Kiyev.
(Silica) (Sorption) (Heat of wetting)

NEKRYACH, Ye.F.; SAMCHENKO, Z.A.

Sorption of water vapor by hydrophilic high polymers. Part 3: Sorption isotherms and heats of wetting of cellulose acetate. Ukr. khim. zhur. 26 no.6:700-706 '60. (MIRA 14:1)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Cellulose) (Heat of wetting)

NEKRYACH, Ye. F.; SAMCHENKO, Z. A.; Prinimala uchastiye AVRAMCHUK, L. P.

Sorption of water vapor by hydrophilic high polymers. Part 8: Isotherms of sorption and of heat of wetting of polycaprolactam. Ukr. khim. zhur. 28 no.5:514-621 '62. (MIRA 15:10)

(Nylon) (Sorption) (Heat of wetting)

NEKRYACH, Ye. F.; SAMCHENKO, Z. A.; Prinimala uchastiye AVRAMCHUK, L. P.

Sorption of water vapors by hydrophilic high polymers. Part 9: Investigation of the structural changes of polycaprolactam based on sorption and thermochemical data. Ukr. khim. zhur. 28 no.6: 703-706 '62. (MIRA 15:10)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

(Nylon) (Sorption) (Thermochemistry)

NEKRYACH, Ye.F.; SAMCHENKO, Z.A.; DUMANSKIY, A.V.

Sorption isotherms and heats of wetting of polyhexamethylene adipamide. Koll.zhur. 25 no.6:666-670 N-D '63. (MIRA 17:1)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Kiyev.

NEKRYACH, Ye.F.; SAMCHENKO, Z.A.

Study of structural changes in polyhexamethylene adipamide by the method of sorption and thermochemical measurements. Ukr. khim. zhur. 29 no.11:1151-1155 '63. (MIRA 16:12)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

SAMCHENKO, Z.A. [Samchenko, Z.O.]; KUKOVSKIY, Ye.G. [Kukovs'kyi, IE.H.]; NEKRYACH, Ye.F. [Nekriach, IE.F.]

X-ray diffraction study of the structure of polyundecanamide. (MIRA 18:2)
Dop. AN URSR no.2:229-231 '65.

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.

L 63834-65 EWT(m)/EPF(c)/EWP(j)/EWA(c)/T RM

ACCESSION NR: AP5020230 UR/0069/65/027/004/0578/0582
541.183.25:541.64

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B

AUTHORS: Nekryach, Ye. F.; Samchenko, Z. A.

TITLE: Sorption isotherms and heats of wetting of polyenanthamide

SOURCE: Kolloidnyy zhurnal, v. 27, no. 4, 1965, 578-582

TOPIC TAGS: polyenanthamide, sorption kinetics, sorption, wetting agent

ABSTRACT: The work was undertaken to extend the currently available information on the thermodynamics of sorption and wetting of polyenanthamide. Since the authors (Ukr. khim. zh. 28, 614, 1962) have shown that the hydrophylic properties of polyamides depend on their method of preparation, five different specimens of polyenanthamide, obtained by the following methods, were studied. E. mech. was obtained by mechanical crushing of solid polymer; E. s. — by precipitation from a hot solution--20% $CaCl_2$ in methanol; E. mv. was precipitated by the addition of small quantities of methanol and water to the above solution; E. met. was precipitated by adding methanol to a formic acid solution of the polymer; and E. ac was obtained by addition of acetone to a formic acid solution of the polymer. The experimental results are shown graphically. From these results it is

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ACCESSION NR: AP5020230

concluded that one water molecule is combined with two -NHCO- groups. Orig. art. has: 3 graphs.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN UkrSSR, Kiyev (Institute for General and Inorganic Chemistry, AN UkrSSR)

SUBMITTED: 23Sep63 ENCL: 00 SUB CODE: GC

NO REF SOV: 010 OTHER: 001

Card 1/2

KERNYCH, Ye.F., SAMOYLENKO, Z.A.

Sorption isotherms and heats of wetting of polyundecanamide.
Kol. zhur. 27 no.6:850-853 N-D '65. (MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR, Kiyev. Submitted July 13, 1964.

NEKRYACH, Ye.F.; SAMCHENKO, Z.A.

Study of structural changes in polyenanthamide by measuring water vapor sorption. Ukr.khim.zhur. 31 no.5:461-464 '65. (MIRA 18:12)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR. Submitted Sept. 21, 1963.

BRAUN, M.P.; SEVRUK, B.A.; MIROVSKIY, E.I.; SAMCHENKO, V.G.; EL'KINA, T.P.

New case-hardenable 20GSVT steel. Metalloved. i term. obr. met. no.11:24-26 N '65. (MIRA 18:12)

1. Ukrainskaya sel'skokhozyaystvennaya akademiya i Khar'kovskiy traktornyy zavod.

SAMCHIK, L.T.

ZAGRISHEV, A.A., SAMCHIK, L.T.

Growing rate of wool in fine-wool hybrid sheep. Agrobiologiia no.6:101-105 N-D '56. (MLRA 10:1)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva Yugo-Vostoka, Saratov.
(Sheep) (Wool)

SAMCHUK, Ivan Anikeyevich, polkovnik; LUPACH, V.S., red.; SRIBNIS, N.V., tekhn. red.

[The 13th Guards; combat history of the 13th Guards Poltava Order of Lenin Fifle Division 1941-1945, twice-decorated with the Order of the Red Banner and the Orders of Suvorov and Kutuzov] Trinadtsataia gvardeiskaia; boevoi put' Trinadtsatoi gvardeiskoi Poltavskoi ordena Lenina dvazhdy Krasnoznamennoi ordenov Suvorova i Kutuzova strelkovoi divizii, 1941-1945. Moskva, Voen.izd-vo M-va oborony SSSR, 1962. 293 p.
(MIRA 15:3)
(Russia--Army--History) (World War, 1939-1945)

SAMCHUK, Ivan Anikeyevich; YEZHAKOV, V.I., red.

[Poltava Guards Division; a short sketch of the combat record of the 97th Poltava Guards Red Banner Rifle Division decorated with the Orders of Suvorov and Bohdan Khmel'nits'kyi] Gvardeiskaia Poltavskaia; kratkii ocherk o boevom puti 97-i gvardeiskoi Poltavskoi Krasnoznamennoi ordenov Suvorova i Bogdana Khmel'nitskogo strelkovoi divizii. Moskva, Voenizdat, 1965. 150 p. (MIRA 18:5)

SAMCOVIC, Borislav, inz. (Loznica, Preduzece "Viskoza")

Properties of viscous cords, and use of domestic cords in the manufacture of automobile tires. Tehnika Jug:Suppl.:Elektrotehnika 13 no.1:143-147 Ja '63.

1. Pomocnik generalnog direktora preduzeca "Viskoza", Loznica.

SAMCOVIC, Borislav, inz. (Loznica, Mose Pijade 15)

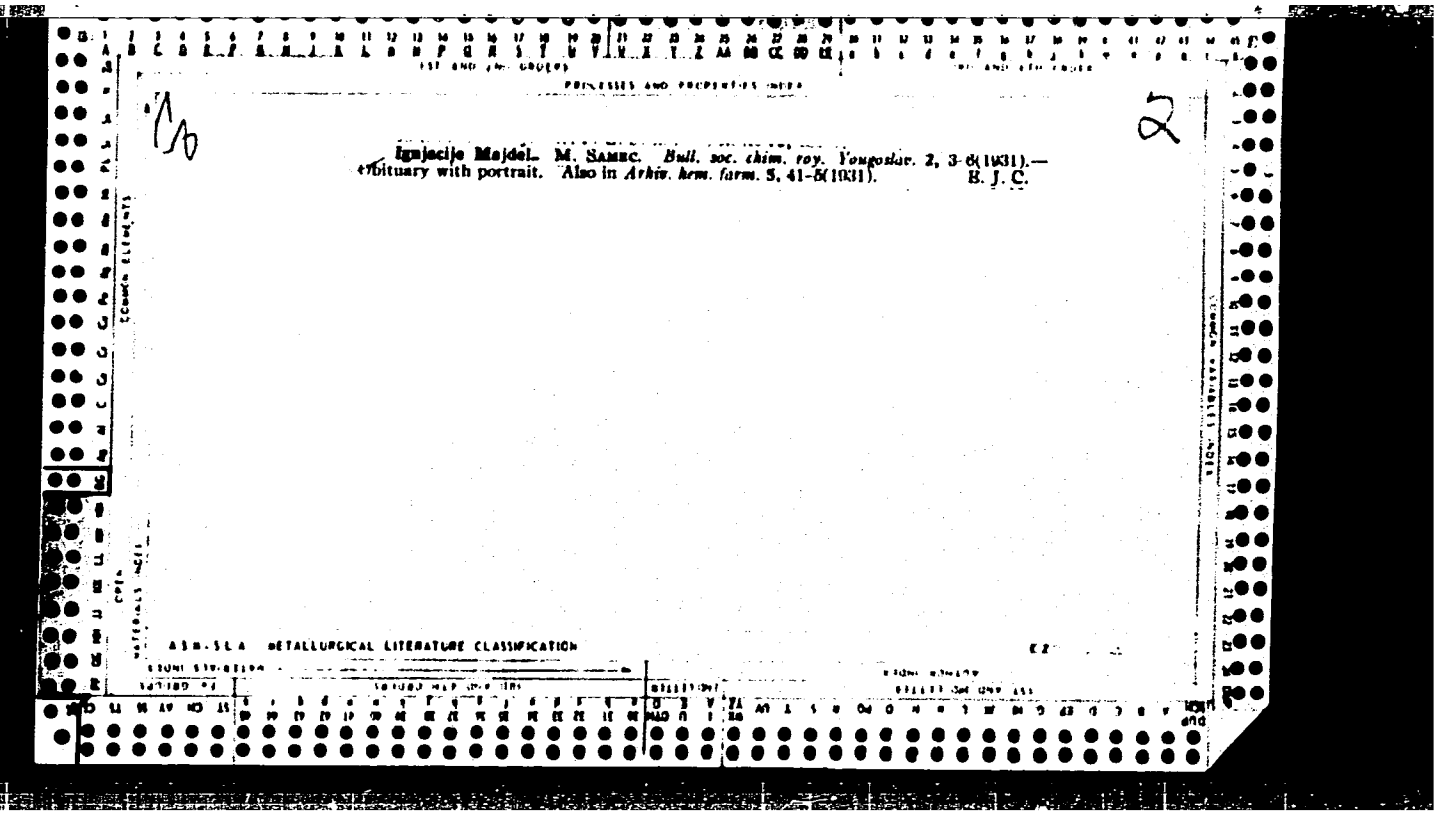
Unwoven textiles. Tehnika Jug 18 no.7:Supplement: Hemindustrija 17 no.7:1336b-1336e Jl'63.

1. Pomocnik generalnog direktora fabrike "Viskoza", Loznica.

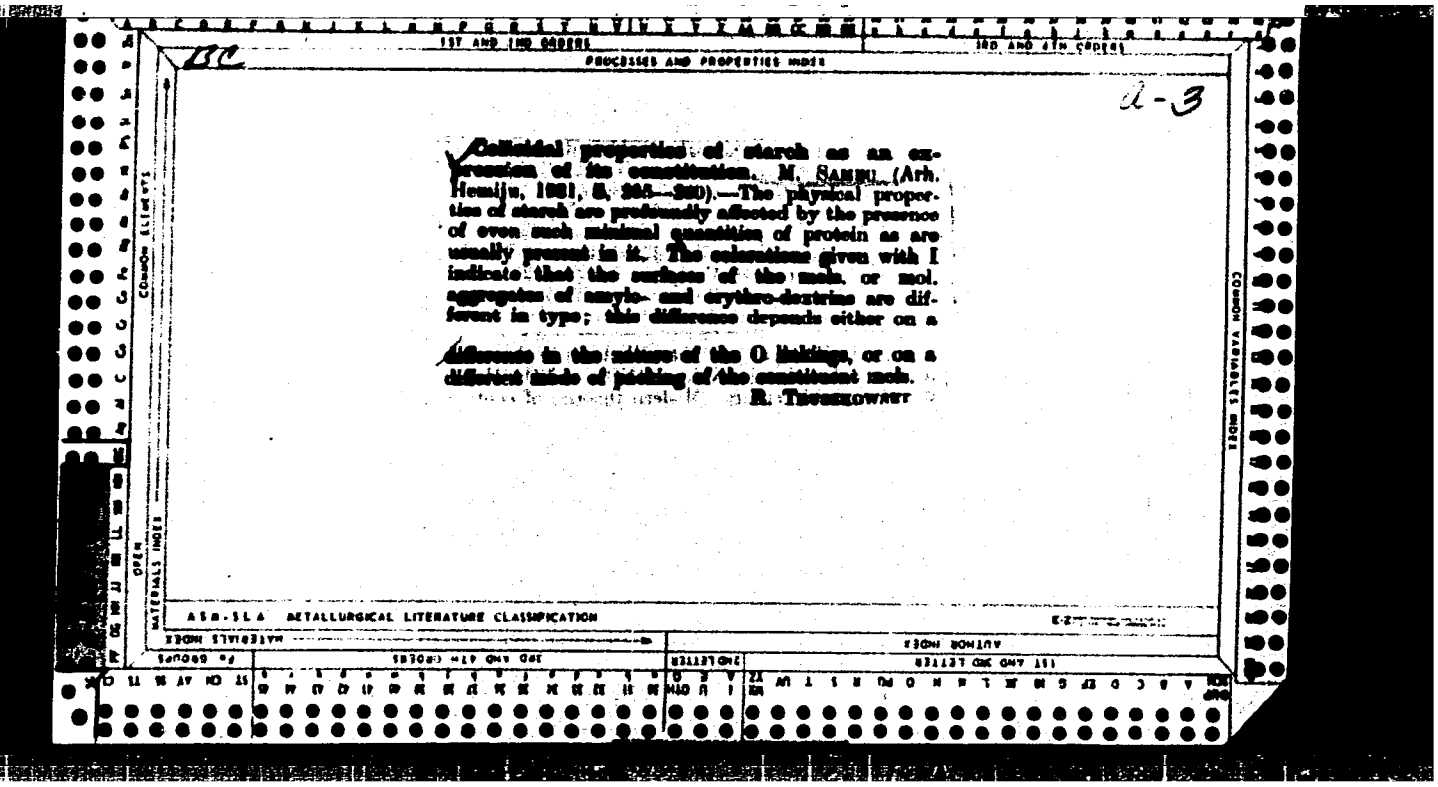
SULTANOV, K.M.; KHALIFA-ZADE, Ch.M.; SAMEDOV, S.S.

Stratigraphy of the Jurrasic sediments of the Kuma oil- and gas-bearing region. Izv.vys.ucheb.zav.; neft' i gaz 7 no.4:10-13 '64. (MIRA 17:5)

1. Azerbaydzhanskiy gosudarstvennyy universitet imeni Kirova.



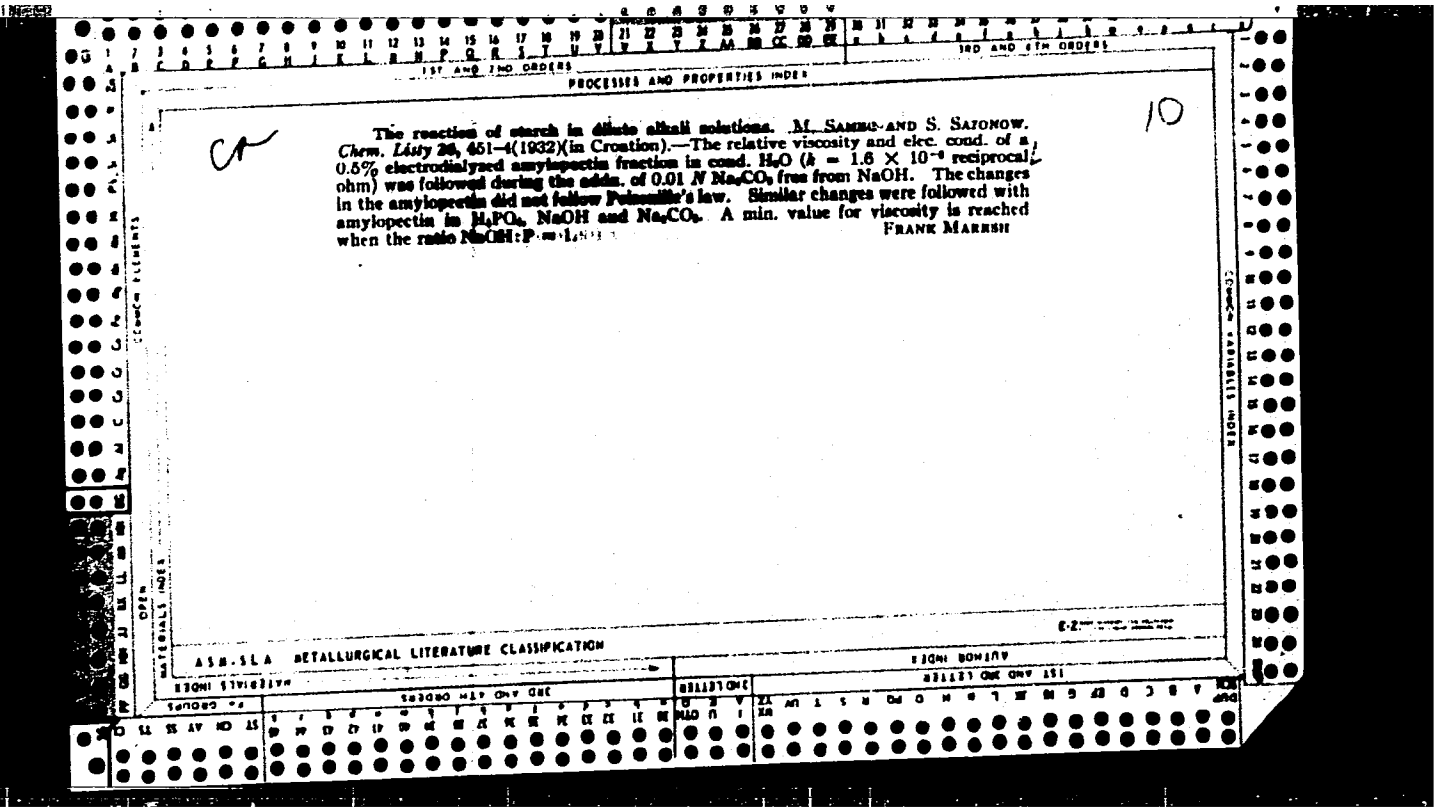
Ignjacije Majdel. M. Samec. *Bull. soc. chim. roy. Yougoslav.* 2, 3-8(1931).—Obituary with portrait. Also in *Arhiv. hem. farm.* 5, 41-8(1931). R. J. C.

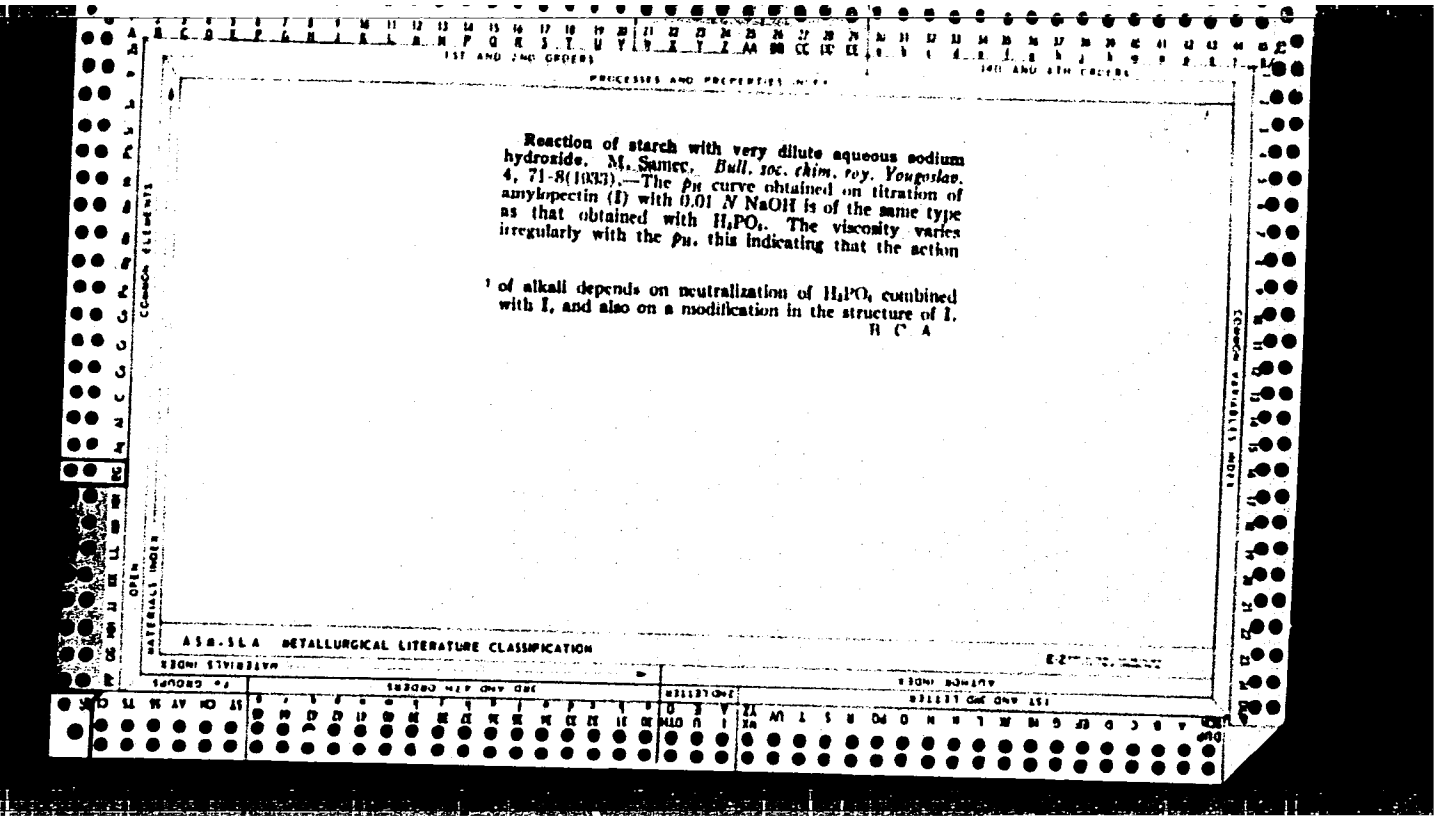


d-3

Colloidal properties of starch as an expression of its constitution. M. Samec (Arh. Hemiju, 1931, 5, 285—320).—The physical properties of starch are profoundly affected by the presence of even such minimal quantities of protein as are usually present in it. The coloration given with I indicate that the surfaces of the mols. or mol. aggregates of amylo- and erythro-dextrins are different in type; this difference depends either on a difference in the nature of the O linkings, or on a different mode of packing of the constituent mols.

R. Truszkowski





Reaction of starch with very dilute aqueous sodium hydroxide. M. Samec. *Bull. soc. chim. roy. Yougoslav.* 4, 71-8(1933).—The p_H curve obtained on titration of amylopectin (I) with 0.01 *N* NaOH is of the same type as that obtained with H_3PO_4. The viscosity varies irregularly with the p_H, this indicating that the action of alkali depends on neutralization of H_3PO_4 combined with I, and also on a modification in the structure of I.

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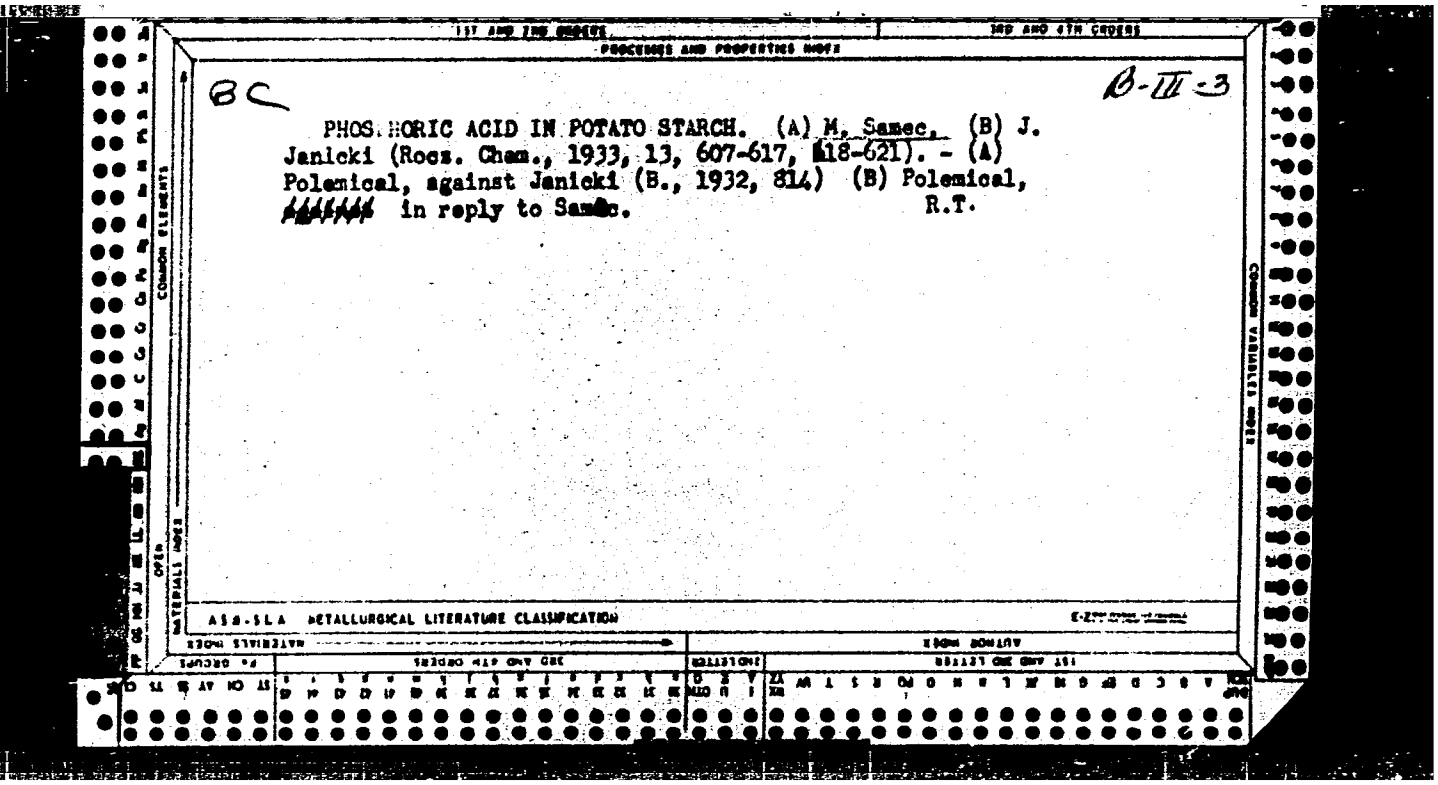

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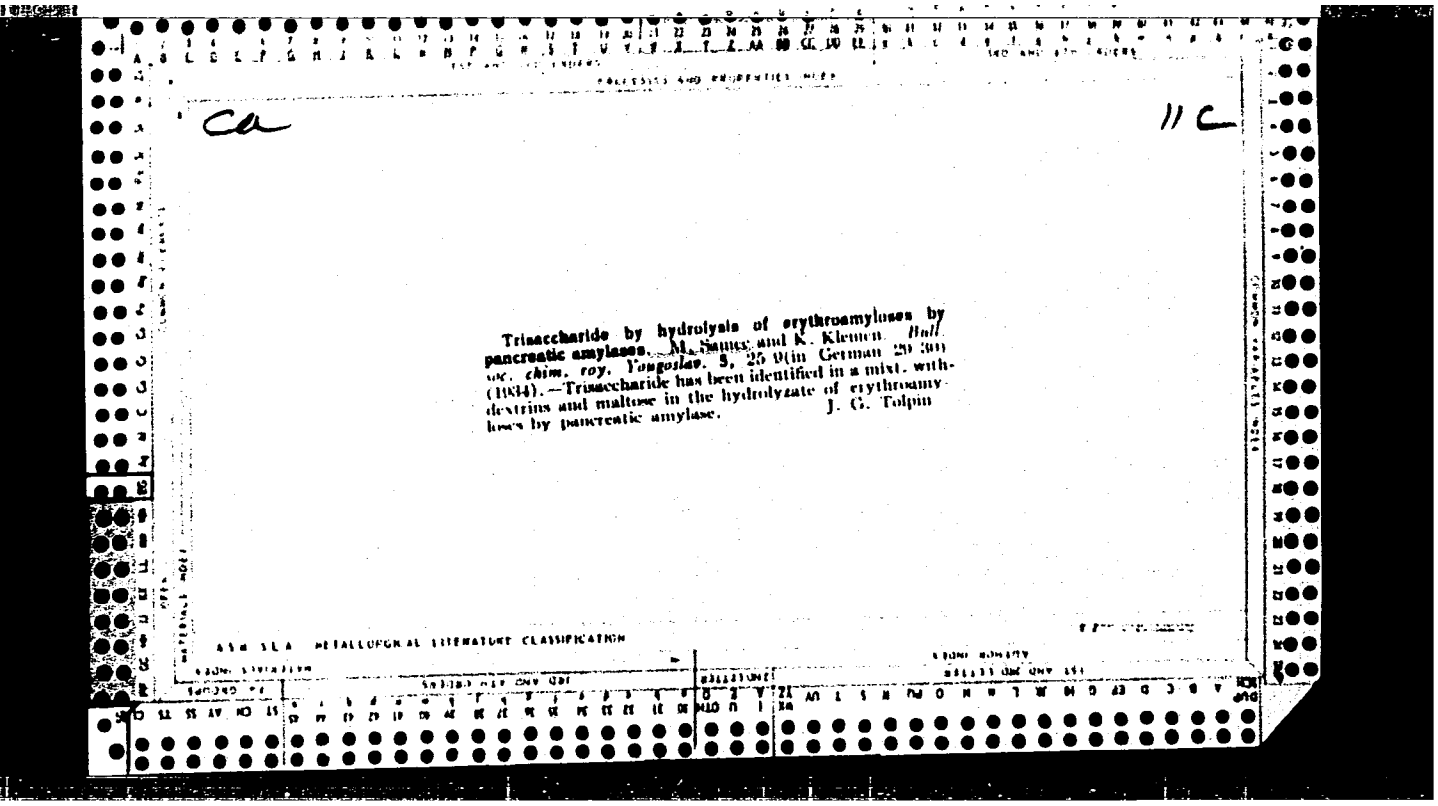
PHOSPHORIC ACID IN POTATO STARCH. (A) M. Samec. (B) J. Janicki (Roczn. Chem., 1933, 13, 607-617, 618-621). - (A) Polemical, against Janicki (B., 1932, 814) (B) Polemical, in reply to Samec. R.T.

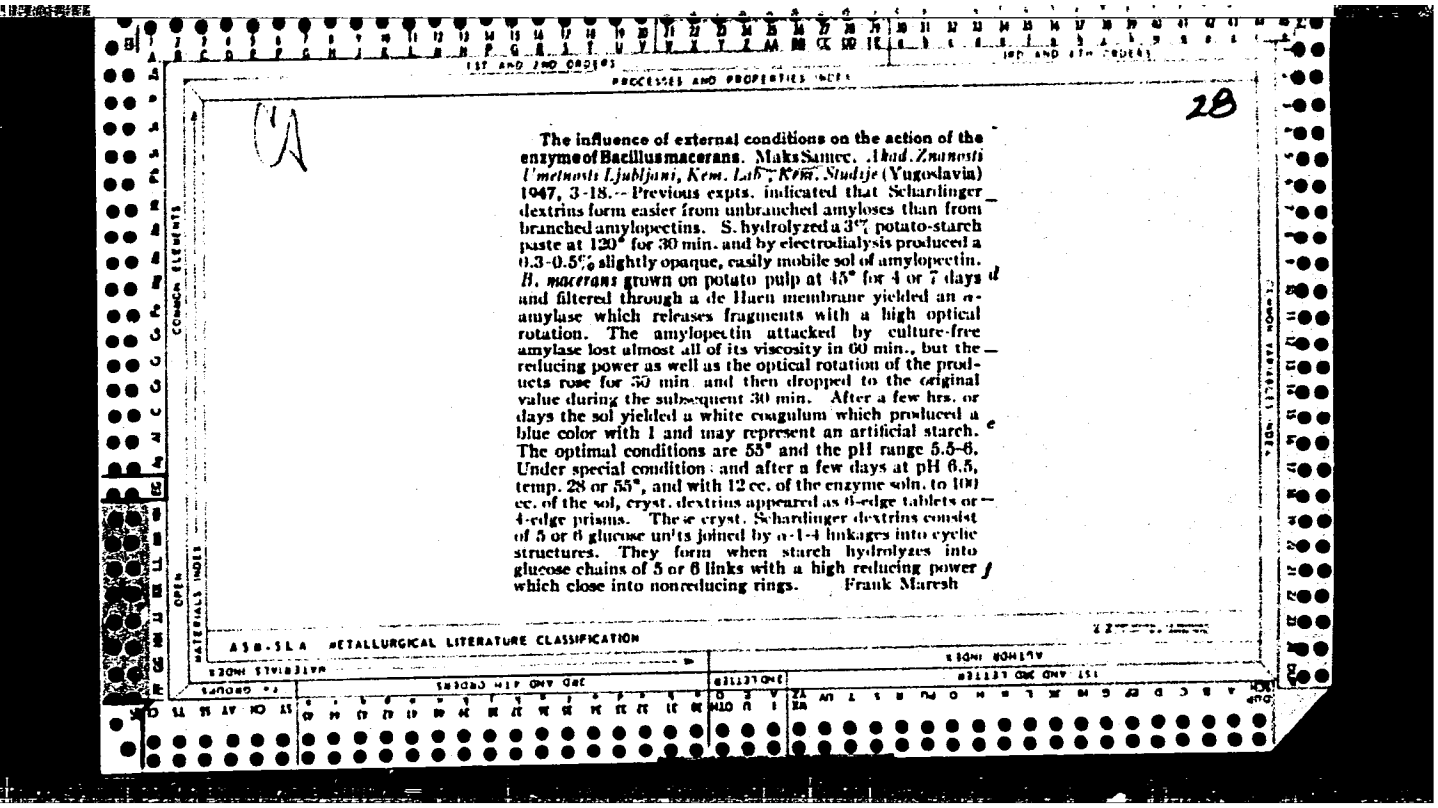


Ca

11 C

Trisaccharide by hydrolysis of erythroamyloses by pancreatic amylases. M. Simić and K. Kleinen. *Bull. soc. chim. roy. Yougoslav.* 5, 25-9(in German 29-30) (1934).—Trisaccharide has been identified in a mixt. with dextrins and maltose in the hydrolyzate of erythroamyloses by pancreatic amylase. J. G. Tolpin

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION



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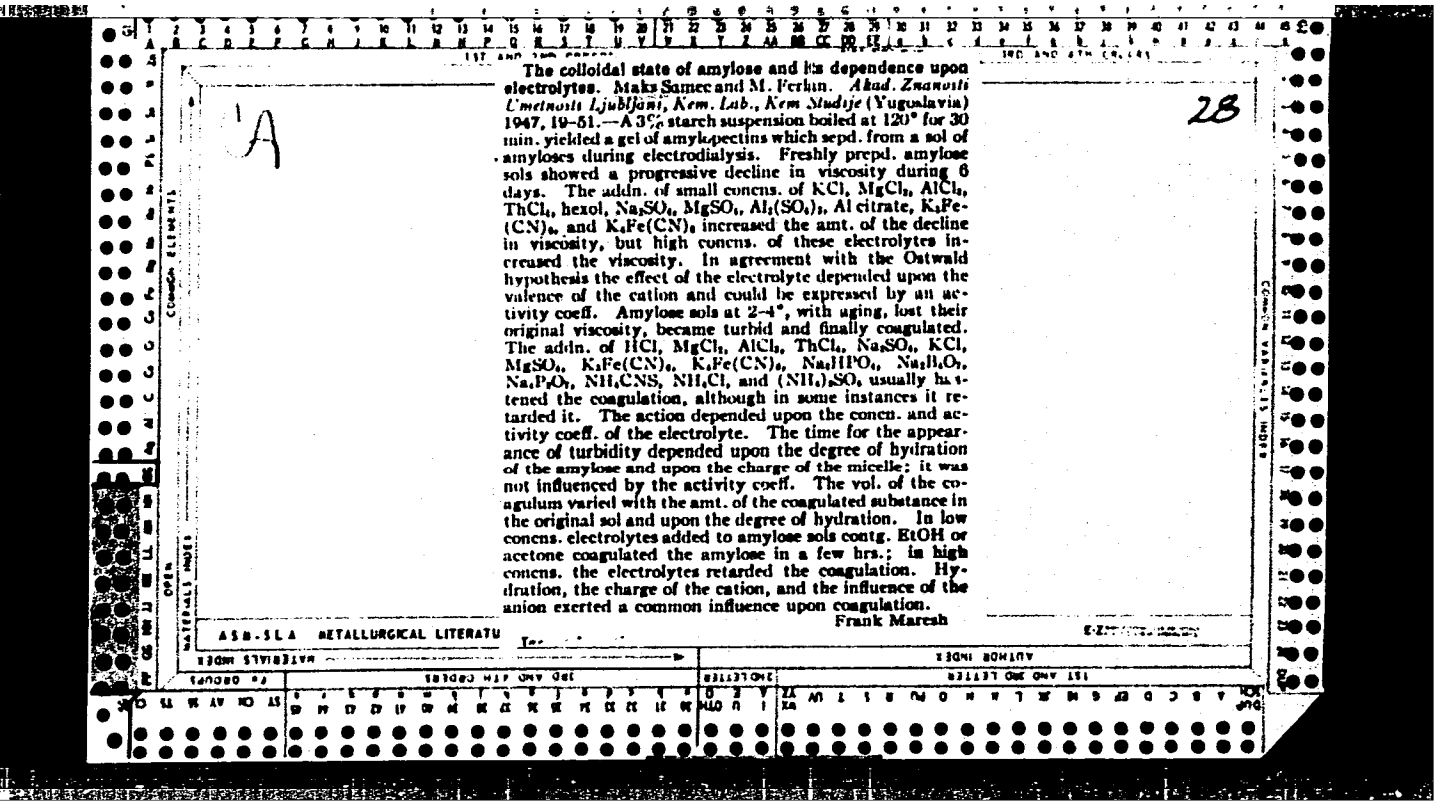
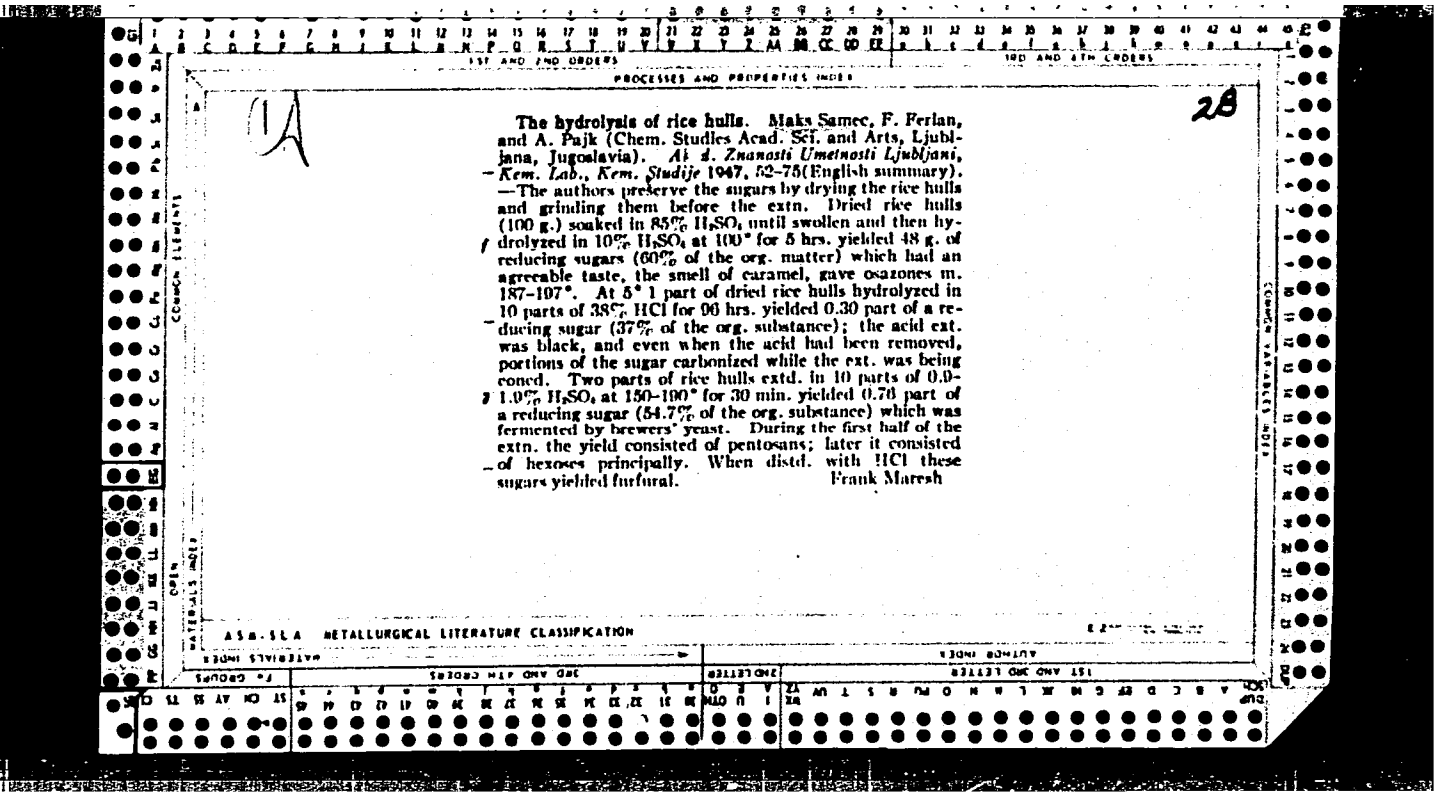
The influence of external conditions on the action of the enzyme of Bacillus macerans. Maks Samec. *Akad. Znanosti Umetnosti Ljubljani, Kem. Lab., Kem. Studije* (Yugoslavia) 1947, 3-18.—Previous expts. indicated that Schardinger dextrins form easier from unbranched amyloses than from branched amylopectins. S. hydrolyzed a 3% potato-starch paste at 120° for 30 min. and by electrodialysis produced a 0.3-0.5% slightly opaque, easily mobile sol of amylopectin. *B. macerans* grown on potato pulp at 45° for 4 or 7 days and filtered through a de Haen membrane yielded an α-amylase which releases fragments with a high optical rotation. The amylopectin attacked by culture-free amylase lost almost all of its viscosity in 60 min., but the reducing power as well as the optical rotation of the products rose for 30 min. and then dropped to the original value during the subsequent 30 min. After a few hrs. or days the sol yielded a white coagulum which produced a blue color with I and may represent an artificial starch. The optimal conditions are 55° and the pH range 5.5–6. Under special conditions and after a few days at pH 6.5, temp. 28 or 55°, and with 12 cc. of the enzyme soln. to 100 cc. of the sol, cryst. dextrins appeared as 6-edge tablets or 4-edge prisms. These cryst. Schardinger dextrins consist of 5 or 6 glucose units joined by α-1-4 linkages into cyclic structures. They form when starch hydrolyzes into glucose chains of 5 or 6 links with a high reducing power which close into nonreducing rings. Frank Maresh



The colloidal state of amylose and its dependence upon electrolytes. Maks Samec and M. Ferlan. *Akad. Znanosti Umetnosti Ljubljani, Kem. Lab., Kem Studije* (Yugoslavia) 1947, 19–51.—A 3% starch suspension boiled at 120° for 30 min. yielded a gel of amylopectins which sepd. from a sol of amyloses during electrodialysis. Freshly prepd. amylose sols showed a progressive decline in viscosity during 6 days. The addn. of small concns. of KCl, $MgCl_2$, $AlCl_3$, $ThCl_4$, hexol, Na_2SO_4, $MgSO_4$, $Al_2(SO_4)_3$, Al citrate, $K_4Fe(CN)_6$, and $K_3Fe(CN)_6$ increased the amt. of the decline in viscosity, but high concns. of these electrolytes increased the viscosity. In agreement with the Ostwald hypothesis the effect of the electrolyte depended upon the valence of the cation and could be expressed by an activity coeff. Amylose sols at 2–4°, with aging, lost their original viscosity, became turbid and finally coagulated. The addn. of HCl, $MgCl_2$, $AlCl_3$, $ThCl_4$, Na_2SO_4, KCl, $MgSO_4$, $K_4Fe(CN)_6$, $K_3Fe(CN)_6$, Na_2HPO_4, $Na_2B_4O_7$, $Na_4P_2O_7$, NH_4CNS, NH_4Cl, and $(NH_4)_2SO_4$ usually hastened the coagulation, although in some instances it retarded it. The action depended upon the concn. and activity coeff. of the electrolyte. The time for the appearance of turbidity depended upon the degree of hydration of the amylose and upon the charge of the micelle; it was not influenced by the activity coeff. The vol. of the coagulum varied with the amt. of the coagulated substance in the original sol and upon the degree of hydration. In low concns. electrolytes added to amylose sols contg. EtOH or acetone coagulated the amylose in a few hrs.; in high concns. the electrolytes retarded the coagulation. Hydration, the charge of the cation, and the influence of the anion exerted a common influence upon coagulation.

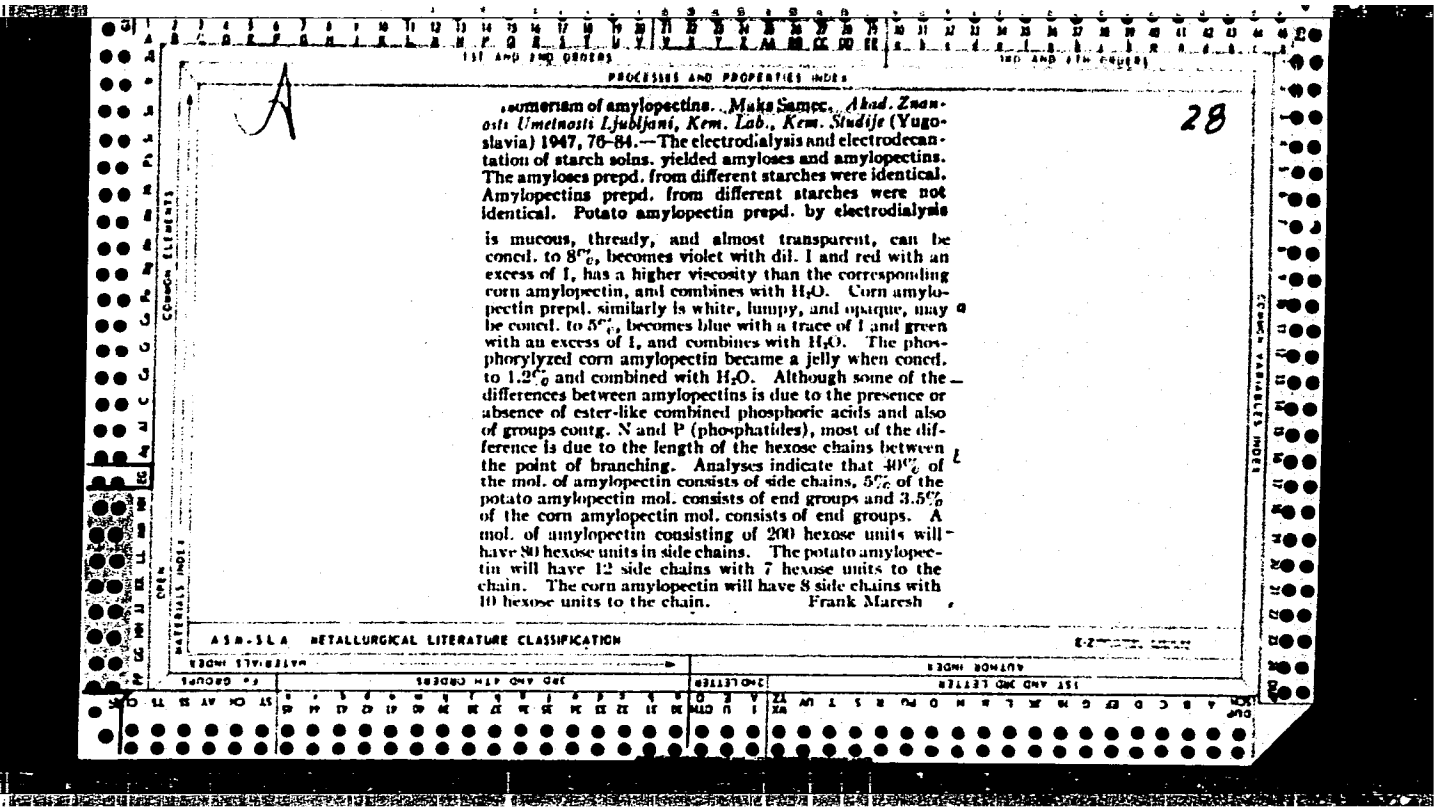
Frank Maresh



1A

28

The hydrolysis of rice hulls. Maks Samec, F. Ferlan, and A. Pajk (Chem. Studies Acad. Sci. and Arts, Ljubljana, Jugoslavia). *Ali d. Znanosti Umetnosti Ljubljani, Kem. Lab., Kem. Studije* 1947, 52–75(English summary). —The authors preserve the sugars by drying the rice hulls and grinding them before the extn. Dried rice hulls (100 g.) soaked in 85% H_2SO_4 until swollen and then hydrolyzed in 10% H_2SO_4 at 100° for 5 hrs. yielded 48 g. of reducing sugars (60% of the org. matter) which had an agreeable taste, the smell of caramel, gave osazones m. 187–197°. At 5° 1 part of dried rice hulls hydrolyzed in 10 parts of 38% HCl for 96 hrs. yielded 0.30 part of a reducing sugar (37% of the org. substance); the acid ext. was black, and even when the acid had been removed, portions of the sugar carbonized while the ext. was being coned. Two parts of rice hulls extd. in 10 parts of 0.0–1.0% H_2SO_4 at 150–190° for 30 min. yielded 0.76 part of a reducing sugar (54.7% of the org. substance) which was fermented by brewers' yeast. During the first half of the extn. the yield consisted of pentosans; later it consisted of hexoses principally. When distd. with HCl these sugars yielded furfural. Frank Maresh



PROCESSES AND PROPERTIES INDEX

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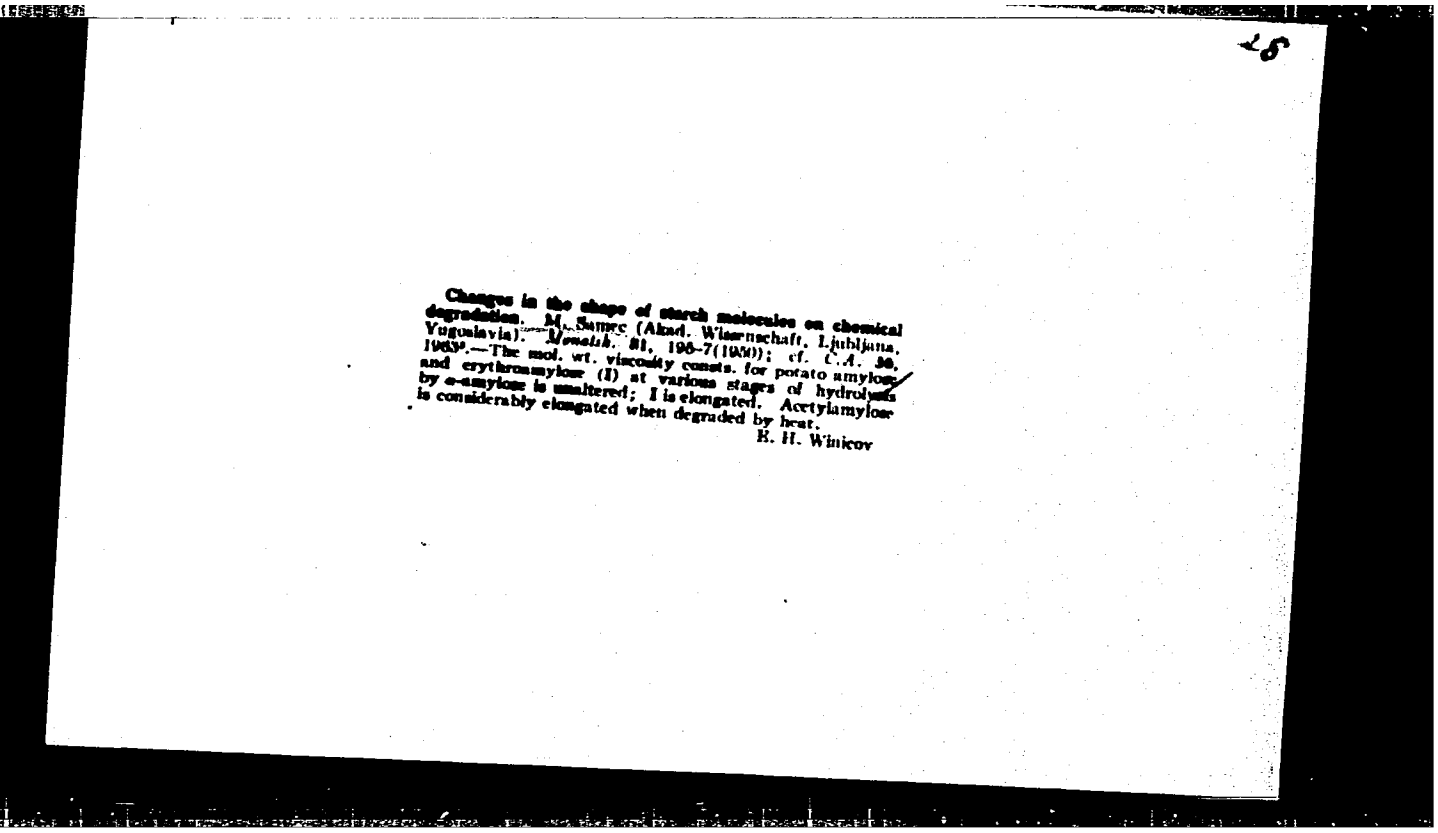
...somerism of amylopectins. Maks Samec. *Akad. Znanosti Umetnosti Ljubljani, Kem. Lab., Kem. Studije* (Yugoslavia) 1947, 76–84.—The electrodialysis and electrodecantation of starch solns. yielded amyloses and amylopectins. The amyloses prepd. from different starches were identical. Amylopectins prepd. from different starches were not identical. Potato amylopectin prepd. by electrodialysis is mucous, thready, and almost transparent, can be concd. to 8%, becomes violet with dil. I and red with an excess of I, has a higher viscosity than the corresponding corn amylopectin, and combines with H_2O. Corn amylopectin prepd. similarly is white, lumpy, and opaque, may be concd. to 5%, becomes blue with a trace of I and green with an excess of I, and combines with H_2O. The phosphorylyzed corn amylopectin became a jelly when concd. to 1.2% and combined with H_2O. Although some of the differences between amylopectins is due to the presence or absence of ester-like combined phosphoric acids and also of groups contg. N and P (phosphatides), most of the difference is due to the length of the hexose chains between the point of branching. Analyses indicate that 40% of the mol. of amylopectin consists of side chains, 5% of the potato amylopectin mol. consists of end groups and 3.5% of the corn amylopectin mol. consists of end groups. A mol. of amylopectin consisting of 200 hexose units will have 80 hexose units in side chains. The potato amylopectin will have 12 side chains with 7 hexose units to the chain. The corn amylopectin will have 8 side chains with 10 hexose units to the chain. Frank Maresh

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SAMEC, MAKSIMILIJAN.

Kemicne studje. V Ljudljani, Akademija znanosti in umetnosti, 1947. 84 p.

SO: EEAL, Vol 5, No. 7 July 1956



Changes in the shape of starch molecules on chemical degradation. M. Samec (Akad. Wissenschaft, Ljubljana, Yugoslavia). *Kemija*. 81, 196-7(1950); cf. *C.A.* 50, 1985°.—The mol. wt. viscosity consts. for potato amylose and erythroamylose (I) at various stages of hydrolysis by α-amylase is unaltered; I is elongated. Acetylamylose is considerably elongated when degraded by heat.
B. H. Winicov

Chemical Abstracts
Vol. 48 No. 5
Mar. 10, 1954
Sugar, Starch, and Gums

Change in molecular structure in the enzymic degradation of starch. Maks Samec (Chem. Inst. Slovenian Acad. Arts Sci., Ljubljana). *Kem. Zbornik* 1951, 7–9; cf. *C.A.* 45, 883a.—Amylose and erythroamylose were subjected to hydrolysis with α-amylase, and the viscosity and mol. wt. of the resulting products were detd. From these data the value of the const. K_m from Staudinger's equation was calcd. For the hydrolysis of amylose $K_m = 0.90 \times 10^{-4}$ and for erythroamylose it is $0.1\text{–}0.2 \times 10^{-4}$. From these values it is concluded that the structure of the erythroamylose changes from a circular structure to a chainlike form. J. R. L.

CA

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Viscometric characteristics of acetyl-amyloses and their products of decomposition. M. Samec and L. Knop. *Slovenska Akad. Znanosti Umetnosti, Razred Mat., Fiz. Tehn. Vede, Classe. III, Ser. A., Razprave II*, 7-26(in English, 26-9)(1951); cf. *C.A.* **36**, 1983[8].—Amylose isolated from potato starch by electrodialysis was acetylated in pyridine with Ac_2O and the resulting acetate heated to various temps. in the range 230–305° to yield polymeric homologous amylose-acetates (I). The viscosities of I in $CHCl_3$ decrease with increasing reaction temp., and the relation between viscosity and concn. does not follow a straight line. At low concns. the I/d quotient of the Kuhn equation (cf. *C.A.* **26**, 5474) is 80 for undisaggregated I and 12.2 for I heated 1 hr. at 305°. These low values suggest a helical mol. With decreasing concn. the viscosity-mol. wt. const. approaches a const. value $K = 6.7 \times 10^{-4}$ for weakly disaggregated chains, and $K = 14 \times 10^{-4}$ for stronger disaggregation as compared with the const. for amyloamylose and its α-diastatic hydrolysis product, $K = 0.9 \times 10^{-4}$.

F. W. Hoffmann

CA

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General characteristic of the coal of Rata. B. Popovic and M. Samec (Slovene Acad. Sci. Arts, Ljubljana, Yugoslavia). *Acad. Sci. et Art Slovn.* (Ljubljana) Class III, Ser. A, *Rasprave* **3**, 67–72(in English, 73–4)(1951).—This coal has a high content of org. S and a calorific value of 6500–7837 cal./kg. With an ash content of 9%, the coal contains 40% of volatile matter. Upon coking the coal swells greatly.

Irving A. Breger

CA

28

Research on starch in retrospect and in prospect. M. Samec (Slavon. Acad. Arts Knowledge, Ljubljana, Yugoslavia). *Kolloid-Z.* 124, 135–41(1951).—The status of research on starch to date is reviewed by discussing starch of various plants, I color, org. constitutive differences, amylopectin of various starches, and synthesis. Data are presented to show properties of starches heated for several days, titrated with NaOH, and hydrolyzed. Future work will concern structural branching, diastatic enzymes, the shape of the mol., and the value and variation of coupling and hydration ability of starches. Richard N. Rhoda a

SAMEC, Maks

Chem Abs v48
1-25-54
Sugar, Starch, + Gums

Starch. Maks Samec. *Nova Proizvodnja* 3, 155–61 (1952).—S. discusses the following: (1) P in starch; (2) starches of different plants; (3) N in starch; (4) the I colorimetric differences of starch substances; (5) org. constitutive differences in starch substances; (6) constitutive differences in the amylopectins of different starches; (7) synthesis of starch; (8) prospects of future starch research. In potato starch P is combined as an ester. The starch is subjected to 2 kinds of splitting, viz., with or without the splitting of P. The amylophosphoric acid has the character of a dibasic acid and titration curves similar to those of ortho-phosphoric acid. In one group of starches the P acts as an acid, whereas in others it is an ingredient of phosphatides. The coloration with I is a very important factor in the study of starch substances. For one group of starch substances the color is pure blue while for another group it is reddish violet. Starches which are colored blue are converted into sugar by diastase while starches which are colored red give dextrins. Investigations of the fermentative change and the org. chem. decompn. indicated that substances colored by I are made up of mols. which form chains while substances giving violet or red I colors consist of ramified glucose chains. The amylopectins of various starches differ from one another in the manner of the mol. ramification and by the manner in which the P is combined. J. R. Leach

SAMEC, M.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Fuels and Carbonization Products

Investigations on various substances having coking properties. D. Hadži, B. Popović, and M. Samec. *Bull. sci., Conseil acad. RPF Yugoslav.* 1, 14–15(1953)(in English).—On the basis of expts. obtained with a no. of substances, such as a product of pyrolysis of di-2-naphthyl sulfone, hydrocarbons prepd. by reacting naphthalene or anthracene with $AlCl_3$, a product of pyrolysis of polyvinyl chloride, and a series of quinones, it is concluded that there are no requirements for the presence of S or O in substances having coking properties. N. Plavšić

SAMEC, M.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Fuels and Carbonization Products

(3)

Investigation of the mechanism of the coking process by adding certain chemical compounds to noncoking coal. B. Popović and M. Samec: *Bull. sci., Conseil acad. RPF, Yugoslav.* 1, 15(1953)(in English).—Expts. with dextrose, saccharose, dextrin, starch, spent sulfite liquor, and the hydrolyzate of wood show that all these substances give coking properties to lignite or the semicoke of lignite. The sugars of the saccharose type give the best results. Lignin obtained from wood hydrolyses also evokes coking. Excellent results are obtained with di-2-naphthyl sulfone, from which the sol. parts are eliminated with alc. and ether. Neg. results are obtained with the product of pyrolysis of di-2-naphthyl disulfone. N. Plavšić

Determination of the total sulfur in coal by the Rothe method. M. Šamec and S. Sklenář. *Acad. Sci. Artium Slovenicae* (Ljubljana), Class. III., Ser. A. Dissertationes No 3, 45–51(1953)(English summary).—Coal from the Raša Mine, because of its high-S content, has made it necessary to devise a new and more reliable method for its detn. For this purpose the Rothe method has been adopted. This method is based upon the oxidation of the org. substance with hot HNO_3 in the presence of MgO. Because of the time-consuming nature of the process and the consumption of chemicals, this process is not suitable for routine analyses. However, it can be useful in cases where other methods give poor results. J. Rovtar Leach

YUGOSLAVIA/Chemical Technology - Chemical Products and Their Applications - Treatment of Solid Fuels. H.

Abs Jour : Ref Zhur - Khimiya, No 11, 1958, 37476

Author : Gasparini, A., Samec, M., Skledar, S.
Inst : -
Title : Ash Content Determination of Sulfur-Rich Coals and Cokes

Orig Pub : Razpr. Slov. Akad. znan in umetn. Razr. mat., Fiz. in tehn. vede, 1953, 5, No 4, 55-72

Abstract : A method for ash content determination of "Rasha" (Yugoslavia) coals containing up to 10% of S has been worked out. It has been established that ash content should be determined in an electric muffle furnace at 750°C. The weighted portion should be placed in a hollow dish and introduced into a cold muffle furnace, in order to avoid excessively rapid blowing up of the coal, and left exposed to air in the initial stage of heating. Heating time was 3 hours at 750°C.

Card 1/1

MEIC, M. Yugoslavia CA: 47:12853

Slovenska Akad. Znanosti Umetnosti, Ljubljana, Jugoslavia

"Hydrogen bonds in starch."

Die Starke 5, 105-8 (1953).

SAMEC, M.

CH

Variations in the colloidal state of starch in relation to the hydrogen bond. M. Samec (Sloven. Akad., Ljubljana, Yugoslav.). *Vestnik Sloven. Kem. Drustva* 1, 3–7(1954).—To support the views that OH groups of starch mols. are linked together by means of H bonds, emphasis is laid on infrared absorption spectra of dried starch films. These show an absorption min. at 3500 mμ, which, as stated, cannot be due to simple OH-groups alone. Some phenomena accompanying drying, wetting, agglutination, and ageing of starch are discussed in the light of the H bond. N. Plavšić

SAMEC, M.

Gc

YUGO.

Differences among samples of Raša coal from different strata. B. Lavrenčič and M. Samec (Chem. Inst. "Boris Kidrič," Ljubljana, Yugoslavia). *Bull. sci., Conseil acad. RPF Yougosl.* 2, 12(1954)(in German); cf. Lavrenčič, *et al., Bull. sci., Conseil acad. RPF Yougosl.* 1, 72–3(1953); *C.A.* 49, 503*f*.—The percentage friability of a no. of coal samples from different strata after coking in a Jenkner retort varied between 44 and 54. Cretaceous samples yielded coke with about 80% friability. Dilatometric tests with all samples gave contractions at 300–380°, 380–430°, and at 430–480°. A correlation exists between the percentage friability and the temp. of the max. primary contraction of samples from different strata. N. Plavšić

SAMEC M.

Retrogradation of starch [studied by] infrared spectra. M. Samec ("Boris Kidrič" Chem. Inst. Slovene Acad. Sci., Ljubljana, Yugoslavia). *Die Stärke* 6, 87–90(1954).—Starches from potato, wheat, and corn were gelatinized, pptd. with alc., dissolved in H_2O, aged, and pptd. with alc. Infrared patterns given show slight differences depending on starch type and treatment. Dexter French

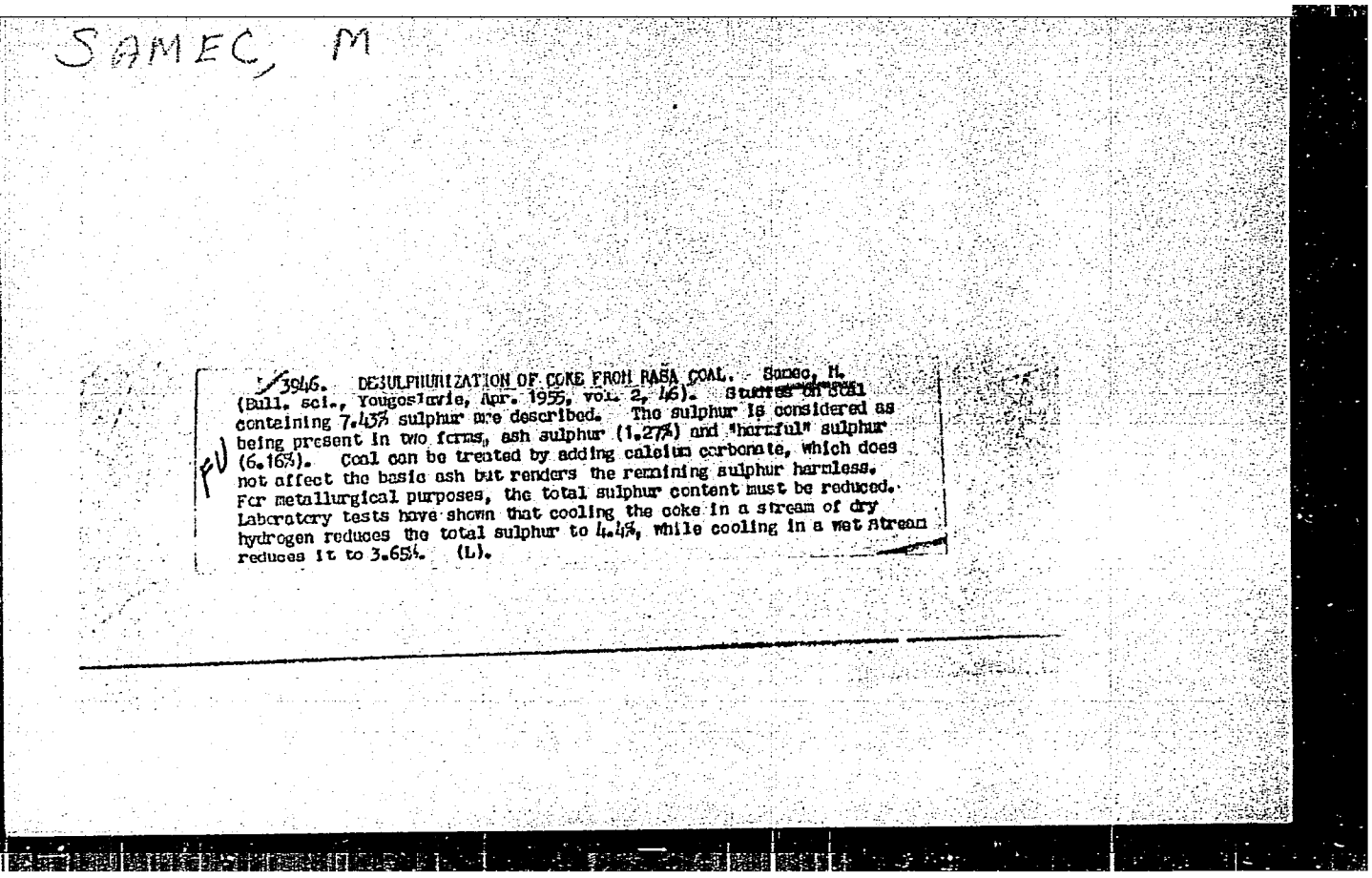
SAREC, M.

Chemical Abstracts
May 25, 1954
Fuels and Carbonization
Products

The carbonization of noncaking coals. D. Hadži, R. Kavčič, and M. Šarec (Slovakian Acad. Sci., Ljubljana, Yugoslavia). *Brennstoff-Chem.* 35, 44-7(1954).—With a view to clarifying the mechanism of carbonization, the carbonization of several org. compds. was studied. The first compd. tested was di-2-naphthyl sulfone, which is noncaking in the pure condition, but, when slowly heated, yields a pitch with good caking properties. The 1,2-naphthoquinone has excellent caking properties; weaker but still good caking properties are possessed by 4-hydroxynaphthyl-1,2-naphthoquinone. Stilbenequinone carbonizes without melting; anthraquinone, tetrahydroanthraquinone, and other quinones sublime. Caking properties are possessed by sucrose, gelatin, and weakly caking properties by asparagine and the hippuric acids. A very strongly caking pitch can be made by the condensation of naphthalene with $AlCl_3$; this has soly. characteristics similar to those of the so-called asphalts. The infrared spectra were detd. for the compds. known to be caking. Relative to the reaction between the binding material and the diluent, it is known that asphalts can evolve H under suitable conditions, and that coals can react with H. The hydrogenation of lignite yields a material which not only has caking properties, but is also capable for forming a solid coke with untreated lignite.

R. W. Ryan

10-12-54



SAMEC, M

3946. DESULPHURIZATION OF COKE FROM RASA COAL. Samec, M. (Bull. sci., Yougoslavie, Apr. 1955, vol. 2, 46). Cokes of coal containing 7.43% sulphur are described. The sulphur is considered as being present in two forms, ash sulphur (1.27%) and "harmful" sulphur (6.16%). Coal can be treated by adding calcium carbonate, which does not affect the basic ash but renders the remaining sulphur harmless. For metallurgical purposes, the total sulphur content must be reduced. Laboratory tests have shown that cooling the coke in a stream of dry hydrogen reduces the total sulphur to 4.4%, while cooling in a wet stream reduces it to 3.65%. (L).